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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,003

12/02/2003

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EXAMINER

CHEN, BRET P

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

04/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/725,003	Applicant(s) APPRIOU ET AL.	
	Examiner Bret Chen	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-12, 14-20 are pending in this application. Amended claims 1-12 and canceled claim 13 are noted.

The amendment dated 1/29/08 has been entered and carefully considered. The examiner appreciates the amendments to the specification and claims. In view of said amendments, the objections to the specification, the 112 rejections, and the 102 art rejection have been withdrawn.

Claims 14-20 have been withdrawn from consideration as being directed to a nonelected invention.

Claim Objections

Claims 3, 7 are objected to because of the following informalities for the reasons listed below. Appropriate correction is required.

In claim 3, the term "an other" should read --another--.

In claim 7, the term "an other" should read --another--.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drouart et al. (5,522,007) alone or when taken in view of Mansfield (4,689,212).

Drouart discloses a method of making an optical fibers from preforms that have been built up with pure silica or optionally with doped silica by plasma deposition (col.1 lines 7-12).

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Specifically, a plasma torch is utilized to inject hydroxyl ions into the build-up silica with the help of a plasma-generating gas at before, during, or after the build-up step (col.2 lines 47-61) which allows the silica to vitrify directly on the primary perform (col.1 lines 47-50). The hydroxyl ions are introduced upstream of the primary perform (Figure 2). It is the examiner's position that the hydroxyl ions act as a reducing agent and hence would inherently be able to reduce the production of nitrogen oxides. In one embodiment, a non-humidified plasma-generating gas can be utilized such that the water vapor concentration is in the plasma-generating gas (col.5 lines 7-23). However, the reference fails to teach introducing a reducing agent into the interaction zone.

It is noted that Drouart specifically teaches of introducing the reducing agent upstream of the plasma torch 5 as noted in Figure 2. Drouart specifically teaches of injecting hydroxyl ions with the expressed purpose of building up silica on the preform (col.2 lines 37-45). One skilled in the art after reading Drouart would realize that the hydroxyl participates in the build-up process and that it could be injected anywhere prior to the preform. Hence, it would have been obvious to inject hydroxyl ions in the claimed interaction zone with the expectation of obtaining similar results because it would not matter when one provides the reducing agent as long as it was available for the reaction and in the absence of a showing of criticality.

The limitation of claim 2 has been addressed above.

In claim 3, the applicant requires an additional reducing element. One skilled in the art would realize that the more reducing agents one uses the bigger reducing effect. It would have been obvious to utilize a second reducing agent with the expectation of affecting the reducing

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rate. Furthermore, it is well settled that the mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

In claims 4 and 6, the applicant requires a specific reducing agent. It is noted that in one embodiment, hydrogen is fed into the plasma torch (col.6 lines 4-11). It would have been obvious to one skilled in the art to utilize hydrogen as a means to produce the hydroxyl ions as noted by Drouart with the expectation of obtaining similar results.

In claim 5 and 6, the applicant requires a solid reducing agent. Drouart teaches the use of fluorine (col.1 lines 22-46). Mansfield teaches the use of fluorine compounds to lower the index of refraction (col.1 lines 13-42). It would have been obvious to incorporate the fluorine compounds in the process of Drouart with the expectation of lowering the index of refraction.

It should be noted that claims 7-12 recite where the reducing gas is introduced. The reducing gas goes through the entire plasma torch as noted in Figure 2 and thus meets the limitation of the applicant's claims. Regardless, to inject hydroxyl ions in different areas would have been obvious with the expectation of obtaining similar results because there appears to be no criticality in the location of the injection as mentioned above.

Response to Arguments

Applicant's arguments filed 4/25/08 have been fully considered but they are not persuasive.

Applicant argues that Drouart does not teach or suggests a specific location nor applying a reducing element into an introduction zone (p.10 second and last paragraph).

The examiner disagrees. It is first noted that Drouart teaches injecting hydroxyl ions. As previously mentioned, it is the examiner's position that hydroxyl ions meet the limitation of a reducing agent. As a result, the reducing agent is injected somewhere. Secondly, it is noted that there is no recitation of an introduction zone in the instant claims. Hence, the applicant's arguments are not commensurate in scope with the claims as presently written. If the applicant intended the introduction zone to be the claimed "interaction zone", then this issue has been addressed above.

Applicant's arguments have been considered but are not deemed persuasive.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bret Chen whose telephone number is (571)272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bret Chen/

Primary Examiner, Art Unit 1792

4/25/08